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EXAMINER

KANG, INSUN

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2193

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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DETAILED ACTION

1. This action is responsive to the amendment filed on 12/22/2008.
2. Claims 1-14 and 16-30 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7-14, and 16-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortal (U.S. PGPUB 2004/0034846) in view of Kodosky et al. (US Patent 7,367,028) hereafter Kodosky.

With respect to claims 1 and 23:

Per claim 1:

Ortal discloses receiving a user request to define a parameter or a setting of a block in a simulatable block diagram model; (Col 8:0124-0125, "...a user desires to add an attribute to a class..."; Col. 2:0012)...generating a preview of code representative of the code for the block(Col 5:0080, "...displaying at least a portion of the source code that has been modified..."). Ortal does not explicitly teach generating preview of code prior to generation of code for the block diagram model. However, Kodosky teaches such a preview was known in the pertinent

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art, at the time applicant's invention was made, to “allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (i.e. col. 6 lines 20-34).”

It would have been obvious for one having ordinary skill in the art to modify Ortal's disclosed system to incorporate the teachings of Kodosky. The modification would be obvious because one having ordinary skill in the art would be motivated to enable the user to preview the code representative of code for the block in the block diagram before generating the actual code.

Ortal, Kodosky further disclose the code for the simulatable block diagram model being executable to simulate the simulatable block diagram model (i.e. Ortal, 0020; Kodosky, col. 7 lines 18-35); Kodosky further discloses: one or more instructions for displaying the preview of the code on a graphical user instance (col. 6 lines 20-34).

Per claim 23: Ortal discloses one or more instructions for receiving a user request to define a parameter or a setting of a block in a simulatable block diagram model; (Col 8:0124-0125, "...a user desires to add an attribute to a class..."; Col. 2:0012)

One or more instructions for generating a preview of code representative of the code in response to the user request, the preview of the code representative of code for the block (Col 5:0080, "...displaying at least a portion of the source code that has been modified..."; 0114).

Ortal does not explicitly teach generating preview of code prior to generation of code for the block diagram model using an execution engine. However, Kodosky teaches such a preview was known in the pertinent art, at the time applicant's invention was made, to “allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (i.e. col. 6 lines 20-34).” It would have been obvious for one having ordinary skill in

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the art to modify Ortal's disclosed system to incorporate the teachings of Kodosky. The modification would be obvious because one having ordinary skill in the art would be motivated to enable the user to preview the code representative of code for the block in the block diagram before generating the actual code.

Ortal and Kodosky further disclose that the preview of code is presented in a coding format that differs from a coding format of the code for the block (i.e. Ortal, code view and active code view which is a specialization of the code view, 0019; Kodosky, a preview window for viewing various configuration diagram options," col. 6 lines 20-34).

Kodosky further discloses: one or more instructions for displaying the preview of the code on a graphical user instance (col. 6 lines 20-34).

With respect to claim 2:

Ortal discloses receiving the parameter or the setting via the graphical user interface. (Col 8:0128, "...a user can change the name of a class...").

With respect to claim 3:

Kodosky further discloses that the generated code is displayed on the same graphical user interface used to enter the parameter. (i.e. col. 31 lines 1-10).

With respect to claim 4:

Ortal discloses that preview of the code comprises a subset of code for the block. (i.e. col. 31 lines 1-10).

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With respect to claim 5:

Ortal discloses that the subset of code corresponds to the parameter or the setting (i.e. col. 31 lines 1-10).

With respect to claim 7:

Ortal discloses an execution engine generating code corresponding to the block. (Col 7:0110, "...Model-code manager locates or determines relevant changes...").

With respect to claim 8:

Ortal discloses a symbolic, non-literal representation of code corresponding to the block. (Col 5:0085, "...an activity diagram...").

With respect to claim 9:

Kodosky further discloses that the generated code comprises pseudo-code (i.e. col. 6 lines 20-34).

With respect to claim 10:

Ortal discloses generating and displaying a preview of code execute in real-time after receiving the user request. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...").

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With respect to claim 11:

Ortal discloses the step of altering the parameter or the setting for the block after the step of displaying the generated code. (Col 8:0128, "...a user can change the name of a class in the code exit code view...").

With respect to claim 12:

Ortal discloses generating code representative of the altered parameter or the altered setting (Col 8:0128, "...a user can change the name of a class in the code exit codeview...")

and displaying the code representative of the altered parameter or the altered setting on the graphical user interface. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 13:

Ortal discloses the step of altering a second parameter or a second setting in the graphical model after displaying of the preview of the code. (Col 8:0124, "...a user desires to add an attribute to a class...").

With respect to claim 14:

Ortal discloses the steps of generating code representing the altered second parameter or the altered second setting (Col 8:0124, "...a user desires to add an attribute to a class...")

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and displaying the code representative of the altered parameter or the altered second setting on the graphical user interface. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...").

With respect to claim 16:

Ortal discloses that the user defines the parameter or the setting via a dialog box associated with the block. (Col 8:0124, "...a user desires to add an attribute to a class...").

With respect to claim 17:

Kodosky discloses that the dialog box includes a code preview field for displaying the code (i.e. col. 31 lines 1-10).

With respect to claim 18:

Kodosky discloses that generating the preview of the code and the preview of the code on a graphical user interface are executed automatically in response to the user defining the parameter or the setting (i.e. col. 31 lines 1-10).

With respect to claim 19 and 24:

Ortal discloses a computer-readable storage medium for use with an electronic device holding instructions executable by the electronic device for performing a method, (Col 8:0129, "...computer 700 used for implementing the computer processing...")comprising the steps of:

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automatically updating a preview of code representative of code for a block in a simulatable block diagram model in response to the user altering the setting; (Col 5:0080, "...displaying at least a portion of the source code that has been modified...").

Ortal does not explicitly teach a preview of code representative of code. However, Kodosky teaches such a preview was known in the pertinent art, at the time applicant's invention was made, to "allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (i.e. col. 6 lines 20-34)." It would have been obvious for one having ordinary skill in the art to modify Ortal's disclosed system to incorporate the teachings of Kodosky. The modification would be obvious because one having ordinary skill in the art would be motivated to enable the user to preview the code representative of code for the block in the block diagram before generating the actual code.

Ortal, Kodosky further disclose the code being executable to simulate the simulatable block diagram model (i.e.Ortal, 0020; Kodosky, col. 7 lines18-35); Kodosky further discloses: displaying the updated preview of the code on a graphical user instance (col. 6 lines 20-34).

With respect to claim 20:

Ortal discloses that the user alters the setting using the graphical user interface. (Col 8:0128, "...a user can change the name of a class...").

With respect to claim 21:

Kodosky discloses that the graphical user interface displays the updated code in real time after the step of the user altering the setting. (i.e. col. 6 lines 20-35).

With respect to claim 22:

Ortal discloses the step of the user canceling the alteration of the setting after viewing the code. (Col 8:0125, ‘...a user can rename a class and set the file...’).

With respect to claim 25, Ortal discloses a system for generating and displaying a graphical programming application, (Col 8:0129, ‘...computer 700 used for implementing the computer processing...’) comprising: user-operable input means for inputting data to the graphical programming application; (Col 8:0124-0125, ‘...a user desires to add an attribute to a class...’); a display device for displaying a simulatable block diagram model; (Col 6:0108, ‘...can display a Unified Modeling Language...’); and an electronic device including memory for storing computer program instructions and data, (Col 8:0129, ‘...computer 700 used for implementing the computer processing...’) and a processor for executing the stored computer program instructions, (Col 8:0129, ‘...computer 700 used for implementing the computer processing...’)the computer program instructions including instructions for providing a code to a user on the display device, (Col 7:0114, ‘...if a user selects an element...its implementation can be displayed in an active code view window...’).

Ortal does not explicitly teach a code preview displaying a preview code representative of a block in the simulatable block diagram model after the user defines a property of the block using the user-operable input means. However, Kodosky teaches such a preview was known in the pertinent art, at the time applicant's invention was made, to ‘allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (i.e. col. 6

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lines 20-34).” It would have been obvious for one having ordinary skill in the art to modify Ortal’s disclosed system to incorporate the teachings of Kodosky. The modification would be obvious because one having ordinary skill in the art would be motivated to enable the user to preview the code representative of code for the block in the block diagram before generating the actual code.

Kodosky further disclose a predictor mechanism which emulates how the code appears when the code is generated by an execution engine (Kodosky, the preview window is employed to “allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied,” col. 6 lines 20-34).

With respect to claim 26:

Ortal discloses that the input means comprises a graphical user interface displayed on the display device. (Col 6:0108, “...The user interface that can be used in connection...”).

With respect to claim 27:

Ortal discloses that the graphical user interface includes a field for displaying the code preview. (Col 6:0108, “...an active code view is shown...to display code that can be used to display code ...”).

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5. Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortal. (U.S. PGPUB 2004/0034846) in view of Kodosky et al. (US Patent 7,367,028) hereafter Kodosky and further in view of Barsness et al. (U.S. Pat 7,086,046).

With respect to claim 28:

Ortal discloses a system for generating and displaying a graphical programming application, (Col 8:0129, "...computer 700 used for implementing the computer processing...")comprising: user-operable input means for inputting data to the graphical programming application; (Col 8:0124-0125, "...a user desires to add an attribute to a class...") a display device for displaying a simulatable block diagram model; (Col 6:0108, "...can display a Unified Modeling Language...", e.g. See Fig. 3 and related text) and an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, (Col 8:0129, "...computer 700 used for implementing the computer processing..."); receiving a first datum altering a setting of a first portion of the simulatable block diagram model (i.e. 0019; Col 8:0124-0125, "...a user desires to add an attribute to a class..."), in response to the first datum, generating a preview of code representative of code for the first portion (i.e. 0019).

Ortal does not explicitly teach generating the preview prior to generation of code for the simulatable block diagram model. However, Kodosky teaches such a preview was known in the pertinent art, at the time applicant's invention was made, to "allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (i.e. col. 6

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lines 20-34).” It would have been obvious for one having ordinary skill in the art to modify Ortal’s disclosed system to incorporate the teachings of Kodosky. The modification would be obvious because one having ordinary skill in the art would be motivated to enable the user to preview the code representative of code for the block in the block diagram before generating the actual code.

Ortal further discloses receiving a second datum altering a setting of a second portion of the simulatable block diagram model (i.e.0124;0125); in response to the second datum, automatically updating a portion of the preview of the code(i.e.0076).

Ortal and Kodosky do not explicitly teach presenting the updated portion of the preview of the code in a format that differs from an un-updated portion of the preview of code. However, Barsness teaches it was known in the pertinent art, at the time applicant's invention was made, to “visually indicate a change performed to the original source code (abstract).” It would have been obvious for one having ordinary skill in the art to modify Ortal and Kodosky’s disclosed system to incorporate the teachings of Barsness. The modification would be obvious because one having ordinary skill in the art would be motivated to highlight changes as taught by Barsness(Fig.5) in Ortal and Kodosky’s system for easy detection of the changes.

With respect to claim 29:

Ortal discloses that the input means comprises a graphical user interface displayed on the display device. (Col 6:0108, “...The user interface that can be used in connection...”).

With respect to claim 30:

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Ortal discloses that the graphical user interface includes a field for displaying the updated code. (Col 6:0108, "...an active code view is shown...to display code that can be used to display code ...").

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortal. (U.S. PGPUB 2004/0034846) in view of Kodosky et al. (US Patent 7,367,028) hereafter Kodosky and further in view of Miller. (U.S. Pat 6,175,948).

Per claim 6:

Ortal and Kodosky do not disclose that the step of generating code comprises a predictor mechanism generating an estimation of the code. Miller discloses that the step of generating code comprises a predictor mechanism generating an estimation of the code (Col 7:10-25, "...User component selection...performance estimates as specified...") in an analogous system for the purpose of providing a method and apparatus for a waveform compiler that provides waveform application development, allows partitioning of that application functionality to a target architecture, and further provides a way of generating and optimizing code and ancillary target software for use in communication systems. (Miller: Col 2:10-16). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include a predictor module that generates software code estimates. The modification would have been obvious because one of ordinary skill in the art would have been motivated to provide a method and apparatus for a waveform compiler that provides waveform application development, allows partitioning of that application functionality to a target architecture, and further provides a way

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of generating and optimizing code and ancillary target software for use in communication systems.(Miller:Col 2:10-16).

Response to Arguments

7. Applicant's arguments filed on 12/22/2008 have been fully considered but they are not persuasive.

Per claim 1:

The applicant states that: the preview window in Kodosky is silent with respect to a preview of code and does not allow a preview of code as required by claim 1. The configuration diagram in Kodosky is a diagram representing devices in a distributed system. In contrast, the code in claim 1 is code relating to a block in a simulatable block diagram model and the code for the simulatable block diagram model is executable to simulate the simulatable block diagram model. Although Kodosky discusess generating a preview of a configuration diagram, Kodosky does not disclose generating a preview of code...the code for the simulatable block diagram mdoel is executable to simulate the simulatable block diagram model. Ortal and Kodosky do not disclose how the preview of a configuration diagram of Kodosky could be modified to arrive at a preview of code as required by claim 1 (remark, 9).

In response, Ortal discloses two relevant views for the code, code view and active code view where the active code view is a specialization of the code view (0019). This active view reflecting the implementation of the currently selected model element can be considered to be a code preview. It is not clearly recited in Ortal that the active view is generated prior to the code view of the entire code. However, Kodosky teaches generating preview of code prior to

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generation of code for the block diagram model to “allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (i.e. col. 6 lines 20-34).”

The claim recites generating a preview of code representative of code. First, the claim does not recite the code preview should display text code. Kodosky's preview window displaying “program icons corresponding to programs present in the system (i.e. col. 3 lines 3-15)” is considered to be the preview of code representative of code. The program icons are ultimately graphical representation of the programs (col. 8 lines 51-67) that can be various different types such as a “DLL or an executable program (col. 7 lines 18-35).” The executable code can simulate Kodosky's configuration diagram and the node representing the device icon can “invoke functionality of the device represented by the device icon, simulate operation of the device,” invoke programs on the device (i.e. col. 63 lines 55-65; Col. 36, lines 40-57). Ortal's model elements can be UML activity/deployment diagrams with nodes/blocks (0085) and the model code is executable (0020). Kodosky also clearly discloses the program icons contained in the configuration diagram being a block diagram (col. 7 lines 1-17; “a program icon is displayed on the configuration diagram that represents the graphical program or block diagram,” col. 60 lines 27-47; Fig. 24A showing Tank simulation). Furthermore, the claim also does not specifically recite how the preview of code representative is generated. Nonetheless, Ortal discloses an active view of code while Kodosky teaches generating a preview window prior to generation of complete code, therefore, applicant's statement above is not persuasive.

2) Per claims 2-5, 7-14, and 16-18:

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In response to the argument that claims 2-5, 7-14, and 16-18 dependent from claim 1 therefore are also allowable for the same reasons discussed for claim 1, as shown above, the rejection of the independent claim 1 is maintained, accordingly, the rejections of claims 2-5, 7-14, and 16-18 are also maintained.

3) Claim 19:

The applicant states that Ortal and Kodosky do not disclose updating a preview of code...the code being executable to simulate the simulatable block diagram model (remark, 10). For the reasons set forth above, Ortal and Kodosky do not disclose the elements of claim 19 (remark, 11).

In response, this has been addressed above. Furthermore, Ortal discloses that the active code view displays the updated code (i.e. 0108) and Kodosky discloses the preview window showing the changes to the configuration diagram (col. 6 lines 20-34).

4) Claims 20-22:

In response to the argument that claims 20-22 dependent from claim 19 therefore are also allowable for the same reasons discussed for claim 19, as shown above, the rejection of the independent claim 19 is maintained, accordingly, the rejections of claims 20-22 are also maintained.

5) Claim 23:

The applicant states that: Ortal does not disclose generating a preview of code.

In response, this has been addressed above.

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The applicant states that: Ortal and Kodosky also do not discuss a coding format of a preview of code and does not disclose a preview of the code being presented in a coding format that differs from a coding format of the code for the block (remark, 11-12).

In response, Ortal discloses two relevant views for the code, one is a code view and the other is an active code view which is a specialization of the code view, reflecting the implementation of the currently selected model element only (0019) while the code view displays code for classes and/or selected package (0019). Therefore, the active code view only shows a “relevant code fragment (0018).” Therefore the code view and the active view are presented in a different coding format. Kodosky also discloses a preview window that shows the changes made to the configuration diagram prior to generation of the code with the changes (col. 6 lines 20-34). Therefore, the preview window is considered to be different in coding format.

6) Claim 24:

The applicant states that claim 24 is allowable for the reasons set forth in connection with claim 19. As shown above, the rejection of claim 19 was maintained, and accordingly, the rejection of claim 24 is also maintained.

7) Claim 28:

The applicant states that: Ortal and Kodosky do not disclose presenting an updated portion of a preview of code in a format that differs from an un-updated portion of the preview of code (remark, 14).

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In response, applicant's statement above is moot in view of a new ground of rejection above. Barsness clearly teaches such different presentation (highlight, font, color etc as in the instant invention) is well known in the art at the time of the invention was made.

8) Claims 29 and 30:

In response to the argument that claims 29 and 30 dependent from claim 28 therefore are also allowable for the same reasons discussed for claim 28, as shown above, the rejection of the independent claim 28 is maintained, accordingly, the rejections of claims 29 and 30 are also maintained.

9) Claim 6:

The applicant states that: Miller does not disclose generating a preview of code...the code for the simulatable block diagram model being executable to simulate the simulatable block diagram model in claim 1 (remark, 14-15).

In response, this has been addressed above per claim 1.

10) Claim 25:

The applicant states that Miller do not supplement Ortal and Kodosky by disclosing the preview of the code being created by a predictor mechanism which emulates how the code appears when the code is generated by an execution engine (remark, 16). Miller discusses estimating the performance of a software component in an application but doe not disclose a predictor mechanism which emulates how the code appears when the code is generated by an execution engine (remark, 17).

In view of the amendment, Miller's reference is withdrawn. However, Kodosky discloses such a predictor mechanism through the preview window that is employed to "allow the user to

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view proposed changes to a configuration diagram prior to the change being committed or applied (col. 6 lines 20-34).” The preview window showing the code with proposed changes prior to actually applying the changes to the code is considered to be emulation of the code appearance.

11) Claims 26 and 27:

In response to the argument that claims 26 and 27 dependent from claim 25 therefore are also allowable for the same reasons discussed for claim 25, as shown above, the rejection of the independent claim 25 is maintained, accordingly, the rejections of claims 26 and 27 are also maintained.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to INSUN KANG whose telephone number is (571)272-3724. The examiner can normally be reached on M-R 7:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis A. Bullock, Jr. can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Insun Kang/
Examiner, Art Unit 2193